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Claims:

1. (Currently Amended) Registration artifact for use in registering fluoroscopic images comprising:
a plurality of radio-opaque fiducials arranged in a known geometric relationship;
and
a plurality of spatially trackable markers disposed on the artifact in a known geometric relationship to fiducials.
2. (original) A method for registering fluoroscopic images comprising:
capturing a first fluoroscopic image of a patient and a registration artifact from a first perspective, the registration artifact including, a plurality of radio-opaque fiducials arranged in a known geometric relationship and a plurality of trackable markers disposed in a known geometric relationship to fiducials;

determining the position of the registration artifact in the first fluoroscopic image with respect to a known coordinate frame by determining the position of the markers using the tracking system; and

capturing a second fluoroscopic image of the patient and the registration artifact frame second perspective;

determining the position of the registration artifact in the second fluoroscopic image with respect to the known coordinate frame by determining the position of the markers using the tracking system;

registering the first and second fluoroscopic images using the positions of the fiducials in each fluoroscopic image and the determined positions of the registration artifact.

registering the fluoroscopic images.
3. (New) The registration artifact of claim 1, wherein the trackable marker includes a infrared emitting diode (IRED).

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4. (New) The registration artifact of claim 1, wherein the trackable marker includes a reflective sphere.

5. (New) The registration artifact of claim 1, wherein the trackable marker includes a magnetically trackable object.

6. (New) The registration artifact of claim 1, further comprising a radio-transparent body to which the plurality of fiducials and plurality of spatially-trackable markers are mounted.

7. (New) An image guided surgery system comprising:
a registration artifact, including a plurality of radio-opaque fiducials arranged in a known geometric relationship, and a plurality of spatially trackable markers disposed on the artifact in a known geometric relationship to fiducials;
a tracking system for determining the positions of the plurality of trackable markers;

a computer in communication with the tracking system for receiving information on the positions of the trackable markers; the computer adapted for receiving a fluoroscopic image taken of the patient with the artifact in the picture and registering the image using the positions of the trackable markers when the fluoroscopic image is taken, the positions of the radio-opaque fiducials within the fluoroscopic image and the known

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relationship between the plurality of trackable markers and the plurality of radio-opaque fiducials.

8. (New) The registration artifact of claim 7, wherein the trackable marker includes a infrared emitting diode (IRED).

9. (New) The registration artifact of claim 7, wherein the trackable marker includes a reflective sphere.

10. (New) The registration artifact of claim 7, wherein the trackable marker includes a magnetically trackable object.